A STUDY OF THE RELATIONSHIP BETWEEN STANDARDIZED READING TEST SCORES AND TEACHER'S RATINGS OF NINTH AND TENTH GRADE STUDENTS' READING LEVELS IN ABILENE, KANSAS

by

JOY FOLL LOWE

B. A., University of Arkansas, 1961

A MASTER'S REPORT

submitted in partial fulfillment of the

requirements for the degree

MASTER OF SCIENCE

School of Education

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1965

Approved by:

J. Harvey Littell
Major Professor

ACKNOWLEDGMENT

I wish to express my appreciation to Dr. J. Harvey Littrell for his interest and supervision in the preparation of this report.

To Mr. John Madelin, principal of Abilene High School, I am grateful for permission to conduct this study in the Abilene, Kansas, high school. I also appreciate the co-operation and help of the ninth and tenth grade teachers.

TABLE OF CONTENTS

	PAGE
THE PROBLEM	1
Statement of the Problem	1
Importance of the Study	2
REVIEW OF THE LITERATURE PERTAINING TO THE PROBLEM	10
Literature on Teachers' Evaluation of Students' Reading Levels	11
Limitations of Previous Studies	13
MATERIALS USED AND GROUPS STUDIED FOR THE PRESENT STUDY	14
The Diagnostic Reading Test, Survey Section	14
Teachers and Pupils Involved in the Study	15
Data from Rating Forms and Standardized Test	17
METHOD AND RESULTS OF CORRELATION	18
Method of Correlation	18
Correlation Results	19
SUMMARY	22
BIBLIOGRAPHY	24
APPENDIX A	29
APPENDIX B	32
APPENDIX C	37
APPENDIX D	45

LIST OF TABLES

TABLE		PAGE
I.	Number of Teachers Participating and Number of Students Rated in Comprehension by Subject Field and Grade Level	16
II.	Number of Teachers Participating and Number of Students Rated in Vocabulary by Subject Field and Grade Level	16
III.	The Contingency Coefficients Determined for Each Subject Field by Grade Level and Reading Trait Showing Relationship Between Teachers' Estimates and Pupils' Measured Abilities	20

THE PROBLEM

The most successful type of reading program for the high school is considered by many reading authorities to be an all-school program; that is, one in which the reading instruction is related to other subject areas in the school. However, in an all-school program problems may arise because of high school teachers' inexperience in teaching the skills of reading. One of these problems is the evaluation of the students' reading levels by means other than testing. Such evaluation is necessary because a good evaluation program does not rely exclusively upon standardized test scores. Teachers may need to verify students' test scores or they may need to gain more insight concerning students' problems than can be acquired by test scores. Therefore, it seems important to know how accurately teachers in subject fields can perform the task of subjectively evaluating their students' reading levels.

Statement of the Problem. The purpose of this study was to discover if teachers could estimate their students' reading abilities. This was accomplished by determining the relationship between teachers' estimations of their students' reading vocabulary and comprehension levels and the students' vocabulary and comprehension scores on the Diagnostic Reading Test, Survey Section. Since the skills of comprehension

and vocabulary vary among the different subject fields, teachers of English, mathematics, and science were included in the study.

Importance of the Study. Rosenblatt commented on the value of reading by observing that the printed page remains the most flexible means through which the individual man or woman can reach across physical and time barriers to find just those other men and women, remote perhaps in time and space, who can offer needed knowledge or wisdom.[1] However, not every man or woman finds reading an easy task. The difficulty and complexity of the reading act is given evidence by the failure of thousands of students and adults to meet the reading demands made upon them. Adults who have completed less than five years of schooling are considered functionally illiterate, since they are unable to engage in those reading activities essential to the welfare of all citizens in a culture.[2] The 1960 Census reported that two per cent of adults had zero years of school completed and eight per cent had less than five years of school completed. The average reading ability of adults was reported to be

---

[1]William S. Gray (ed.), Reading in an Age of Mass Communication, p. 21.

[2]Mary C. Austin, "Progress Achieved Thus Far in Developing Better Readers" (Better Readers For Our Times, ed. William S. Gray and Nancy Larrick.), p. 53.

tenth grade.[1]

The high school is unable to do much about the functionally illiterate adults, but it does have a role in raising the reading levels of students, to prevent their being functionally illiterate. The groundwork has been laid and progress is being made in our high schools in planning developmental reading programs. Kinchelce observed that not too long ago services were provided chiefly for the severely handicapped reader. Today we acknowledge our responsibility for providing instruction in the skills of reading for the gifted also.[2] Cook agrees with this observation in stating that the conquest of meaning from the printed page is a never ending challenge to the reader; and the teaching of reading is never done, but must forever be faced anew wherever printed material is used as a teaching resource. He further states,

> We have gone far in preaching this gospel; but, like those of our short-sighted colleagues who think that the teaching of the sentence means only memorizing a definition and recognizing subjects and predicates, there are those who think that

---

[1]U. S. Bureau of the Census, U. S. Census of Population: 1960. Vol. I, Characteristics of the Population. Part 1, United States Summary, p. LII.

[2]Isabel Kincheloe, "The Nature and Scope of Reading Programs Adapted to Today's Needs in the Senior High School" (Better Readers For Our Times, ed. William S. Gray and Nancy Larrick), p. 36.

children learn to read in the elementary school and thereafter, read to learn.[1]

Students in high school still read to learn, but learning to read does not cease with the elementary grades. There are many reading skills such as skimming and critical reading which can be taught only in the upper grades. If these skills are not acquired, the student may find great difficulty in mastering subject matter. Research, such as that of Ruth C. Penty, points out some consequences of the students' failure to master the reading skills. Penty found that in the Battle Creek High School between September, 1947, and June, 1951, the total percentage of drop-outs was over three times as large among the poor readers as a among the good readers; and that during the tenth grade the percentage of drop-outs was about fifteen times as large for the poor readers as for the good readers.[2] Through interview it was found that seventy per cent of the drop-outs reported trouble in reading and a dislike for those subjects which required a lot of reading.[3]

A review of another study may give more insight into

---

[1]Luella B. Cook, "Challenging Problems Still to Be Faced" (Better Readers For Our Times, ed. William S. Gray and Nancy Larrick), p. 57.

[2]Ruth C. Penty, Ability and High School Drop-Outs, p. 20.

[3]Ibid., p. 55.

why students disliked subjects which required a lot of reading. First, it was found that the least-liked subject among poor readers was English.[1] Annis analyzed the readability factors of three novels commonly taught in high school English classes. By using the Dale-Chall and Flesch formulas, he found that the average difficulty by grade level for the two formulas respectively was: Ivanhoe, grades eleven and nine; A Tale of Two Cities, grades ten and nine; and Silas Marner, grades eight and seven.[2] If the student is reading on a sixth grade level, he will find it difficult to read any of these novels. Therefore, he may form a dislike for them. Also, if great stress is placed upon his mastering one of these, he may form a dislike for reading in general. The teacher who is aware of a student's reading level can provide reading materials that correspond with his level of reading and make the reading task more pleasant in any of the subject fields.

Bentall has made a study in which she used reading ability of students for the prediction of success in high

---

[1] Ibid.

[2] Russell W. Annis, "An Analysis of Readability Factors Within Three Novels Commonly Taught in High School" (Unpublished Master's thesis, The University of Kansas, Lawrence, 1953), cited by Oscar M. Haugh, Kansas Studies in Education, 10:34.

school. She found that prediction equations based on the Stanford Achievement Test in Reading indicated that success in grade nine would require tenth-grade reading in mathematics, eighth-grade reading in English, eleventh-grade reading in science, and ninth-grade reading in social studies. She further stated that passing would be likely to occur even though the reading were as low as grade six in mathematics, grade four in English, grade nine in science, and grade six in social studies. In grade eleven, an eleventh grade reading level appeared to correspond with success in all subjects. Passing would probably occur even though general reading were as low as grade nine in mathematics, grade seven in English, grade nine in science, and grade eight in social studies. She found that students with reading levels below those predicted for passing would have little chance of doing satisfactory course work.[1] According to Kottmeyer a reading level of seventh grade on a reliable silent-reading test indicates the minimum reading ability with which a student can deal passably with the high school

---

[1]Grace Bentall, "Determination of Critical Levels of Reading Ability for High School Students as Measured by Course Marks and Achievement Test Results" (unpublished Doctor's Dissertation, University of Oregon, 1961). Dissertation Abstracts, 22:1459.

curriculum.[1]

These studies indicate the importance of evaluating each student's reading level and having reading instruction when it is needed. A student who does not have the minimum reading ability required by any one subject field or grade cannot be expected to succeed.

DeBoer found that all teachers are aware that their pupils differ widely in reading ability, but few are familiar with the astonishing range of the differences. Most pupils in American high schools are grouped roughly according to chronological age. In the typical eighth grade English class, therefore, a range of eight or more grades in reading ability is likely. He reported Lazar as finding among more than 50,000 eighth grade pupils only fourteen per cent who had eighth grade reading ability. Eight per cent of these pupils had less than fifth grade reading ability, and almost seven per cent had twelfth grade reading ability. The remainder were distributed between these two extremes.[2]

Other studies revealed similar wide ranges of reading

---

[1]William Kottmeyer, "Improving Reading Instruction in the St. Louis Schools," Elementary School Journal, 45:33, September, 1944.

[2]John J. DeBoer, "What Does Research Reveal About Reading and the High School Student?" cited by The National Conference on Research in English, What We Know About High School Reading, p. 38.

ability in any one grade. Penty found that of 2,384 tenth grade students in the Battle Creek High School between September, 1947, and June, 1951, the range of reading grade levels was from 4.3 to 13.[1] Likewise, Kottmeyer reported a range from the fourth grade level to the thirteenth grade level among 4,236 eighth grade graduates in the St. Louis schools.[2] Betts[3] and Pooley[4] stated similar findings.

For the responsibility that this wide range of reading ability places on the teacher, Hobson cited Witty as stating,

> All high-school teachers face the responsibility of adapting assignments to, of utilizing to a maximum, and of further developing the reading abilities of students who differ as much as six or eight grades in reading competence.[5]

DeBoer stated that the purpose should not be to bring the most retarded "up to the norm", but to help every child to read up to his full capacity. Individual differences are

---

[1]Penty, op. cit., p. 19.

[2]Kottmeyer, op. cit., p. 34.

[3]Emmett A. Betts, "Reading Abilities: Averages and Deviations," Education, 74:324.

[4]Robert C. Pooley, "Distribution of Responsibility for the Reading Program," (Reading in an Age of Mass Communication, ed. William S. Gray), p. 96.

[5]Cloy S. Hobson, Teaching Reading in the High School, Part I, (Vol. X, No. 1 of Kansas Studies in Education) p. 1.

increased, not diminished, by good teaching.[1] Gates stated that reading is a very subtle art, and the good teacher must be an artist. He must achieve deep insight and skill in diagnosing and teaching individuals as do successful teachers of the other fine arts.[2]

The teaching of reading on the secondary level is still so new that excellent, experienced teachers whose preparation was largely in one subject field may feel unqualified to diagnose their students' reading levels. However, a sound program of reading instruction can only be developed on the basis of an accurate knowledge of the reading status of the students. At the present time standardized reading tests are considered to be the most reliable means of evaluation. They are usually administered at the beginning and end of the school year. However, the job of teaching reading calls for a continuous program of evaluation to keep abreast of the student's daily progress in reading. There are also schools in which a formal program of evaluation is not available, so evaluation depends upon teachers' estimates of the students' reading abilities.

According to Glock, if the classroom teacher has

---

[1]DeBoer, op. cit., p. 39.

[2]Arthur I. Gates, "Developing Higher Levels of Reading Competence," (Better Readers For Our Times, ed. William S. Gray and Nancy Larrick), p. 98.

clearly in mind the defensible objectives that she wishes to attain in her reading program, then she can learn much about her pupils through systematic observation. She can observe symptoms of eye difficulty, lack of motivation, lip movement, and inadequacy of study skills. Through class discussion she can learn much about a pupil's vocabulary and even his personal-social adjustment which is so closely related to effective reading.[1] However, the important question in this study is not how the teacher evaluates. The purpose of this study was to determine how well teachers can perform the important task of subjectively evaluating their students' reading comprehension and vocabulary levels.

REVIEW OF THE LITERATURE PERTAINING TO THE PROBLEM

There has been much research regarding the validity and usefulness of standardized reading tests. In fact, they receive great emphasis as an evaluative measure in the reading program, even though their usefulness is found to be limited.[2] However, studies were found to be limited which

---

[1] Ibid., p. 133.

[2] George D. Spache, "Classroom Techniques of Identifying and Diagnosing the Needs of Retarded Readers in High School and College," (Better Readers For Our Times, ed. William S. Gray and Nancy Larrick), p. 130.

dealt with discovering how well the classroom teacher can estimate his students' reading comprehension and vocabulary levels. A study of the literature revealed that there are mixed feelings regarding the classroom teachers' ability to evaluate students' reading comprehension levels. These feelings seemed to be a matter of opinion rather than based upon evidence.

Literature on Teachers' Evaluation of Students' Reading Levels. According to the Encyclopedia of Educational Research, the methods used most often for identification of retarded readers are observation and testing. It was stated,

> Whereas the former has much value, its limitations lie in its subjective character. The use of reading tests is far more effective and usually provides information concerning the areas of greatest strength and weakness in reading.[1]

Unfortunately, there were no references to specific studies regarding this statement.

Fay reported a study in which the relevant practices, attitudes, and observations of eight Hammond teachers using individualized approaches to the teaching of reading were reviewed. Appraisal of the students' competence was done systematically by the teachers. Standardized reading tests

---

[1]Chester W. Harris (ed.), Encyclopedia of Educational Research, p. 1129.

administered at the beginning and end of the school year revealed an improvement greater than would ordinarily be expected. The teachers' individualized, diagnostic approach to instruction was considered to be effective.[1]

Hitchcock approached this problem also by correlating the teacher's ratings and standardized test scores, but he limited his study to one English teacher. His study involved 101 eighth grade pupils in English in the junior high school of McCook, Nebraska. The English teacher rated each pupil in terms of grade placement in three areas of reading ability: paragraph meaning, word meaning, and average reading comprehension. The teacher's ratings were based upon eight criteria. The Stanford Achievement Test was then administered and the results were correlated with the teacher's ratings. This correlation was found to be so high that it was concluded that the teacher's ratings were nearly as accurate as the test ratings and that teachers can estimate the reading ability of their students accurately.[2]

Hitchcock's study was the only study found which presented statistical evidence of a teacher's ability to

---

[1]Leo Fay, "Basic Reading Skills," Education, 82:12 September, 1961.

[2]Arthur A. Hitchcock and Cleo Alfred, "Can Teachers Make Accurate Estimates of Reading Ability," Clearing House, 29:422-24, March, 1955.

evaluate her students' reading levels, and his study involved only one English teacher.

Gans stated that the most effective type of evaluation of reading is that done by an alert classroom teacher. Although school wide and systemwide periodic evaluations give vital information required for intelligent program planning, continued wise personal guidance of each child in a classroom requires competent evaluation by the classroom teacher.[1] Again, no referral was made to any specific study.

Limitations of Previous Studies. Although one study revealed the high accuracy with which a teacher of English could evaluate her student's reading abilities, this cannot be generalized to all teachers in all subject matter areas. It cannot be assumed that a science or mathematics teacher is as accurate as an English teacher in this type of evaluation. No study was found which measured the accuracy of teachers in other subject areas in evaluating their students' reading levels.

---

[1]R. Gans, "Good Teacher--Good Evaluation of the Reading Program," Grade Teacher, 80:23, March, 1963.

MATERIALS USED AND GROUPS STUDIED FOR THE PRESENT STUDY

The Diagnostic Reading Test, Survey Section. The Diagnostic Reading Test, Survey Section, was the standard used to measure the ability of teachers to estimate their students' reading levels. This test provides scores in three areas of reading ability--comprehension, vocabulary, and rate of reading; however, only comprehension and vocabulary were chosen as the skills to be evaluated by teachers in this study. It was stated in The Fourth Mental Measurements Yearbook that, "In the reviewer's opinion, the comprehension, vocabulary, . . . seem acceptably valid measures."[1] The sections for comprehension consisted of reading material similar to that found in textbooks in social studies and science. The section for vocabulary was composed of sixty items drawn from general vocabulary and from the vocabularies of English, mathematics, science, and social studies. Therefore, the subject matter used in the test was similar to the subject matter in the three subject fields of English, mathematics, and science used in this study. The reliability of the test sections was .89 for vocabulary and .91 for comprehension.

---

[1] Oscar K. Buros (ed.), The Fourth Mental Measurements Yearbook. p. 531.

Teachers and Pupils Involved in the Study. Teachers of these subject fields in grades nine and ten in the Abilene, Kansas, public school were involved in the study. In September, 1964, the Abilene High School principal consented to make available the necessary teachers and materials in his school. It was decided that the ninth and tenth grade teachers would take part in the study since their students had been given the Diagnostic Reading Test, Survey Section. The letter found in Appendix A, which gave information to the ninth and tenth grade teachers regarding their part in the study, was sent to the principal in October, 1964. The teachers were thus informed of the traits to be rated, the rating scale, and the time when the rating was to be completed. The date set for the teachers to make their ratings was the second week in November, 1964. They were requested not to consult the students' standardized reading test scores before making their estimates.

A total of thirteen teachers took part in the study. Table I indicates the number of teachers in each subject field and grade level who rated their students in reading comprehension. The number of students rated is also indicated by grade and subject field. Table II indicates the number of teachers in each subject field, grade level, and the number of students that they rated in reading vocabulary. The teachers were the same, except that one teacher in tenth

TABLE I

NUMBER OF TEACHERS PARTICIPATING AND NUMBER OF STUDENTS RATED IN COMPREHENSION BY SUBJECT FIELD AND GRADE LEVEL

Comprehension			
Subject	Grade level	No. of teachers	No. of students
English	9	3	138
Math.	9	3	120
Science	10	2	46
English	10	2	72
Math.	10	2	59

TABLE II

NUMBER OF TEACHERS PARTICIPATING AND NUMBER OF STUDENTS RATED IN VOCABULARY BY SUBJECT FIELD AND GRADE LEVEL

Vocabulary			
Subject	Grade level	No. of teachers	No. of students
English	9	3	138
Math.	9	3	128
Science	10	2	44
English	10	3	96
Math.	10	1	39

grade mathematics and one in tenth grade English did not participate in estimating both comprehension and vocabulary. Because so few student were enrolled in ninth grade science, the ninth grade science teacher was excluded from the study.

Data Derived from Rating Forms and Standardized Test. At the time indicated previously, rating forms were delivered to the school. These forms contained directions for using a five point rating scale, the identification of subject field, and a list of the students. It was thought important that for greater accuracy the teachers rate the students on each trait separately. Therefore, each teacher had separate forms for rating students in comprehension and vocabulary. See Appendix B for the forms used and Appendix C for teacher ratings.

The students' scores on the vocabulary and comprehension sections of the Diagnostic Reading Test were obtained from the school counselor. This test had been given to the students by the counselor prior to the present study. The students' scores on the Diagnostic Reading Test, Survey Section, were then transformed into quintiles corresponding to the teacher rating scale. See Appendix B for data concerning test quintiles.

METHOD AND RESULTS OF CORRELATION

Method of Correlation. In order to measure the relationship between the ratings given the students by the teachers on comprehension and vocabulary and the students' standardized test scores, contingency coefficients were determined for these factors for each subject and grade level. According to Garrett,

> The coefficient of mean square contingency, or more simply the contingency coefficient, was developed by Karl Pearson in 1904. The contingency coefficient, or C, is based upon X^2; but it differs from X^2 in that it provides a measure of correlation which under certain conditions is comparable to the product-moment r.[1]

As Garrett mentioned in the above quotation, there are certain conditions which must be met in order to form a close relation of C to r. He stated,

> C is practically equivalent to r when (1) the grouping is relatively fine--5 X 5 fold or finer; (2) when the sample is large; and (3) when we know, or are justified in assuming, that the characters or attributes under investigation are normally distributed.[2]

It was believed that these conditions were fulfilled in this study. First, the grouping was arranged in a 5 X 5 fold table. Second, the sample ranged from 39 students to a high

---

[1]Henry E. Garrett, Statistics in Psychology and Education, p. 387.

[2]Ibid., p. 391.

of 138 students in the subject fields, and this number was considered sufficiently large. Third, in this study it was assumed that the traits of reading vocabulary and comprehension were normally distributed. In Appendix C will be found the 5 X 5 fold tables and the data used in calculating the contingency coefficients. The formula used for finding C, coefficient of contingency, calculated directly, was,

$$C = \sqrt{\frac{S - N}{S}}$$ [1]

Correlation Results. The contingency coefficients determined for the subject fields of English, mathematics, and science by grade level for the reading traits of comprehension and vocabulary are presented in Table III. The lowest contingency coefficient determined was +.50. This relationship existed between the ninth grade mathematics teacher's estimates and pupils' measured abilities in comprehension and between tenth grade mathematics teachers estimates and their pupils' measured ability in vocabulary. The highest contingency coefficient was +.75. This relationship was found between ninth grade English teachers' estimates and pupils' measured abilities in vocabulary.

According to Garrett, ". . . an r from +.70 to +1.00

---

[1] Ibid., p. 388.

TABLE III

THE CONTINGENCY COEFFICIENTS DETERMINED FOR EACH SUBJECT FIELD BY GRADE LEVEL AND READING TRAIT SHOWING RELATIONSHIP BETWEEN TEACHERS' ESTIMATES AND PUPILS' MEASURED ABILITIES

Trait	Comprehension		Vocabulary	
Grade	9	10	9	10
English	+.54	+.59	+.75	+.60
Mathematics	+.50	+.58	+.65	+.50
Science	---	+.51	---	+.71

denotes high to very high relation."[1] Since the conditions for which C is practically equivalent to r were met in this study, a high relationship was found to exist between the teachers' estimates and pupils measured abilities in the following situations:

1. Ninth grade English teachers' ratings and pupils' measured ability in vocabulary.

2. Tenth grade science teachers' ratings and pupils' measured ability in vocabulary.

Garrett stated further that, ". . . an r from +.40 to +.70 denotes substantial or marked relationship . . . ."[2] Thus, it was found that a marked relationship existed between pupils' scores on the Diagnostic Reading Test, Survey Section, and the teachers' ability to estimate students' reading ability in the following:

1. Ninth grade English teachers' ratings and pupils' measured ability in comprehension.

2. Tenth grade English teachers' ratings and pupils' measured ability in both comprehension and vocabulary.

3. Ninth and tenth grade mathematics teachers' ratings and pupils' measured ability in comprehension and vocabulary.

---

[1] Ibid., p. 342. [2] Ibid.

4. Tenth grade science teachers' ratings and pupils' measured ability in comprehension.

Since a marked relationship does exist between pupils' measured scores and the teachers' ability to estimate pupils' comprehension and vocabulary levels, teachers would determine the range of their pupils' reading levels and adjust the subject matter to these reading levels as suggested earlier in the study. They may then be able to aid each pupil by teaching the reading skills as they are needed.

SUMMARY

The purpose of this study was to discover the extent to which high school teachers in various subject fields could subjectively estimate their students' reading levels. This was accomplished by determining the relationship between teachers' estimates of their students' reading levels and the students' scores on the Diagnostic Reading Test, Survey Section. The teachers who participated were ninth and tenth grade teachers of English, mathematics, and science in Abilene High School, Abilene, Kansas. A five point rating scale was used to rate the students in the reading skills of comprehension and vocabulary. Contingency coefficients were then determined in order to find the relationship between the teachers' estimates and pupils' measured abilities.

A high relationship was found to exist between the teachers' estimates and pupils' measured abilities for vocabulary in ninth grade English and tenth grade science. A marked relationship existed between the teachers' estimates and pupils' measured abilities for vocabulary and comprehension in all other areas studied. It was concluded that English, mathematics, and science teachers can subjectively estimate their students' comprehension and vocabulary reading levels with a marked to a high degree of relationship with students' measured ability.

BIBLIOGRAPHY

BIBLIOGRAPHY

Annis, Russell W. "An Analysis of Readability Factors Within Three Novels Commonly Taught in High School." Unpublished Master's thesis, The University of Kansas, Lawrence, 1953. Cited by Oscar M. Haugh. "Research in Reading at the University of Kansas." Vol. X, No. 1 of Kansas Studies in Education. University of Kansas Publication. Lawrence, Kansas: 1960.

Austin, Mary C. "Progress Achieved Thus Far in Developing Better Readers." Better Readers For Our Times. Edited by William S. Gray and Nancy Larrick. International Reading Association Conference Proceedings, Vol. I. New York: Scholastic Magazines, 1956.

Bamman, Henry A., Ursula Hogan, and Charles E. Green. Reading Instruction in the Secondary School. New York: Longmans, Green and Company, Inc., 1961.

Bentall, Grace. "Determination of Critical Levels of Reading Ability for High School Students as Measured by Course Marks and Achievement Test Results." Unpublished Doctor's dissertation, The University of Oregon, Eugene, 1961. Vol. XXII of Dissertation Abstracts. Edited by P. M. Colling. Ann Arbor: University Microfilms, 1961.

Betts, Emmett A. "Reading Abilities: Averages and Deviations," Education, 74:323-6, January, 1954.

Bossone, R. M. "Every Teacher a Teacher of Reading," High School Journal, 46:74-7, December, 1962.

Burnett, Richard W. "The Diagnostic Problem Solving Proficiency of Elementary Teachers in Teaching Reading." Unpublished Doctor's dissertation, Indiana University, Bloomington, 1961. Vol. XXII of Dissertation Abstracts. Edited by P. M. Colling. Ann Arbor: University Microfilms, 1961.

Buros, Oscar K. (ed.). The Fourth Mental Measurements Yearbook. New Jersey: The Gryphon Press, 1959.

Chronister, Glenn M. "Personality and Reading Achievement," The Elementary School Journal, 64:253-60, February, 1964.

Cook, Luella B. "Challenging Problems Still to Be Faced," Better Readers For Our Times. Edited by William S. Gray and Nancy Larrick. International Reading Association Conference Proceedings, Vol. I. New York: Scholastic Magazines, 1956.

Cooper, Louis J. "A Procedure for Teaching Non-Readers," Education, 38:104-7, November, 1961.

Currey, R. L., and H. Huges. "Relationship Between Measured and Anticipated Achievement in Reading," Junior College Journal, 32:91-96, October, 1961.

DeBoer, John J. "What Does Research Reveal About Reading and the High School Student?" Cited by The National Conference on Research in English. What We Know About High School Reading. Edited by The National Conference on Research in English. Champaign: The National Council of Teachers of English, 1957-58.

Fay, Leo. "Basic Reading Skills," Education, 82:10-12, September, 1961.

Fitzgerald, James A. "Diagnosing Reading Deficiencies," Catholic School Journal, 56:12-14, January, 1956.

_____. "Diagnosing Reading Deficiencies II--The Diagnostic Testing Program," Catholic School Journal, 56:46-48, February, 1956.

Gans, Roma. "Good Teacher--Good Evaluation of the Reading Program," Grade Teacher, 80:23+, March, 1963.

_____. "Greater Reading Power Needed Today," Childhood Education, 38:104-7, November, 1961.

Garrett, Henry E. Statistics in Psychology and Education. New York: Longmans, Green and Company, 1945.

Gates, Arthur I. "Developing Higher Levels of Reading Competence," Better Readers For Our Times. Edited by William S. Gray and Nancy Larrick. International Reading Association Conference Proceedings, Vol. I. New York: Scholastic Magazines, 1956.

Gray, William S. (ed.). Reading in an Age of Mass Communication. New York: Appleton-Century-Crofts, Inc., 1949.

Groff, Patrick J. "Children's Attitudes Toward Reading and Their Critical Reading Abilities in Four Content-Type Materials," Journal of Educational Research 55: 313-17, April, 1962.

Harris, Chester W. (ed.). Encyclopedia of Educational Research. New York: Macmillan Company, 1960.

Hawkins, Merrill Morris. "A Study of Arithmetic Performance, Reading Levels, and Teacher's Scores for Fifth and Sixth Grade Pupils in the Vicksburg Public Schools in 1885 and in 1959." Unpublished Doctor's dissertation, The University of Mississippi, Oxford, 1961.

Hitchcock, Arthur A., and Cleo Alfred. "Can Teachers Make Accurate Estimates of Reading Ability," Clearing House, 29:422-24, March, 1955.

Hobson, Cloy S. Teaching Reading in the High School. Part I. Vol. X, No. 1 of Kansas Studies in Education. University of Kansas Publication. Lawrence, Kansas: 1960.

Kincheloe, Isabel. "The Nature and Scope of Reading Programs Adapted to Today's Needs in the Senior High School," Better Readers For Our Times. Edited by William S. Gray and Nancy Larrick. International Reading Association Conference Proceedings, Vol. I. New York: Scholastic Magazines, 1956.

Kottmeyer, William. "Improving Reading Instruction in the St. Louis Schools," Elementary School Journal, 45:33-38, September, 1944.

McDonald, Arthur S. "Some Pitfalls in Evaluating Progress in Reading Instruction," Phi Delta Kappan, 45:336-38, April, 1964.

Mitchell, V. W. "An Analysis of the Grade Expectancy and Actual Reading Achievement of Sixth Grade Pupils, with Special Attention to Six of the Possible Factors in Reading Achievement," Teachers College Journal, 35:52-53, November, 1963.

Ort, Lornen L. "Reading Difficulties, A Contributing Factor to Underachievement and Failure in School," Exceptional Children, 28:489-92, March, 1962.

Penty, Ruth C. Ability and High School Drop-Outs. New York: Columbia University Bureau of Publications, 1956.

Pooley, Robert C. "Distribution of Responsibility for the Reading Program," Reading in an Age of Mass Communication. Edited by William S. Gray. New York: Appleton-Century-Crofts, Inc., 1949.

Robinson, Helen M. (ed.). Evaluation of Reading. Vol. XX of Proceedings of Annual Conference on Reading Held at the University of Chicago. Chicago: The University of Chicago Press, 1958.

Sipay, Edward R. "A Comparison of Standardized Reading Achievement Test Scores and Functional Reading Levels," The Reading Teacher, 17:265-68, January, 1964.

Spache, George D. "Classroom Techniques of Identifying and Diagnosing the Needs of Retarded Readers in High School and College," Better Readers For Our Times. Edited by William S. Gray and Nancy Larrick. International Reading Association Conference Proceedings, Vol. I. New York: Scholastic Magazines, 1956.

_____. "Diagnosis of Reading Problems in the Classroom," Education Digest, 25:47-49, November, 1960.

_____. "Integrating Diagnosis With Remediation in Reading," Elementary School Journal, 59:18-26, September, 1955.

U. S. Bureau of the Census. U. S. Census of Population: 1960. Vol. I, Characteristics of the Population. Part 1, United States Summary. Washington: Government Printing Office, 1964.

Weiss, Jerry M. Reading in the Secondary Schools. New York: The Odyssey Press, Incorporated, 1961.

Wheeler, Lester R., and Viola D. Wheeler. "Dyslexaphoria: Symptoms and Remedial Suggestions," Elementary English, 32:305-11, May, 1955.

APPENDIX A

October 14, 1964
1913 Casement Road
Manhattan, Kansas

Mr. George Madelen, Principal
Abilene High School
Abilene, Kansas

Dear Mr. Madelen:

I would like to express again my appreciation for your co-operation in allowing me to conduct a study of the teachers' ability to estimate their students' reading levels in your school. It is my hope that the results of the study will be as meaningful and beneficial to you and your teachers as it will be for me.

The next important step in my study is that of informing the teachers of what will be expected of them. Because of your familiarity with the teachers and the convenience it will mean for them, I would like to ask you to do this for me. The information to be given to them is enclosed in this letter. The teachers who will be involved in this study are the ninth and tenth grade English, mathematics, and science teachers.

If more information is needed or a conflict arises, I shall be glad to accept a collect telephone call at PR6-5162 in Manhattan or a post card. I appreciate your generosity in adding this task to your busy schedule.

Sincerely,

Joy Lowe (Mrs. E. B. Lowe)

Information for the Ninth and Tenth Grade Teachers Regarding the Estimation of Their Students' Reading Levels

1. Between now and November, teachers should be observing individual pupils to gain an impression of the reading vocabulary and comprehension level.

2. During the second week of November, teachers will be asked to use a five point rating scale ranging from superior to poor to rate each student on the traits given in 1. above.

3. The results of the study will be more valid and beneficial if scores on standardized tests are not consulted; therefore, it is requested that teachers make their ratings without consulting the students' records.

4. Teachers will not need to sign the rating sheets unless they are interested in obtaining their personal results; otherwise, only subject fields will be requested.

5. The co-operation of the teachers will be greatly appreciated.

APPENDIX B

TEACHER'S ESTIMATE OF TENTH GRADE
STUDENT VOCABULARY

Directions:

On the following pages is a list of the entire tenth grade. Please rate each student in your classes according to what you think his reading vocabulary ability to be. In the space provided by each student's name place a numeral according to the following key:

1 to indicate superior (highest 1/5 of class)
2 to indicate above average (next to highest 1/5)
3 to indicate average (middle 1/5)
4 to indicate below average (next to lowest 1/5)
5 to indicate poor (lowest 1/5)

Check below the subject field in which the students you rated are enrolled. If you teach in more than one subject field, use a separate list of students for each one.

____ English

____ Social studies

____ Mathematics

____ Science

____ Orientation

TEACHER'S ESTIMATE OF TENTH GRADE
STUDENT COMPREHENSION

Directions:

On the following pages is a list of the entire tenth grade. Please rate each student in your classes according to what you think his reading comprehensive ability to be. In the space provided by each student's name place a numeral according to the following key:

1 to indicate superior (highest 1/5 of class)
2 to indicate above average (next to highest 1/5)
3 to indicate average (middle 1/5)
4 to indicate below average (next to lowest 1/5)
5 to indicate poor (lowest 1/5)

Check below the subject field in which the students you rated are enrolled. If you teach in more than one subject field, use a separate list of students for each one.

____ English

____ Social studies

____ Mathematics

____ Science

____ Orientation

TEACHER'S ESTIMATE OF NINTH GRADE STUDENT VOCABULARY

Directions:

On the following pages is a list of the entire ninth grade. Please rate each student in your classes according to what you think his reading vocabulary ability to be. In the space provided by each student's name place a numeral according to the following key:

1 to indicate superior (highest 1/5 of class)
2 to indicate above average (next to highest 1/5)
3 to indicate average (middle 1/5)
4 to indicate below average (next to lowest 1/5)
5 to indicate poor (lowest 1/5)

Check below the subject field in which the students you rated are enrolled. If you teach in more than one subject field, use a separate list of students for each one.

____ English

____ Social studies

____ Mathematics

____ Science

____ Orientation

TEACHER'S ESTIMATE OF NINTH GRADE
STUDENT COMPREHENSION

Directions:

On the following pages is a list of the entire ninth grade. Please rate each student in your classes according to what you think his reading comprehensive ability to be. In the space provided by each student's name place a numeral according to the following key:

1 to indicate superior (highest 1/5 of class)
2 to indicate above average (next to highest 1/5
3 to indicate average (middle 1/5)
4 to indicate below average (next to lowest 1/5)
5 to indicate poor (lowest 1/5)

Check below the subject field in which the students you rated are enrolled. If you teach in more than one subject field, use a separate list of students for each one.

____ English

____ Social studies

____ Mathematics

____ Science

____ Orientation

APPENDIX C

NINTH GRADE STUDENTS' TEST SCORES IN QUINTILES AND TEACHER RATINGS IN VOCABULARY AND COMPREHENSION FOR ENGLISH AND MATHEMATICS

	Test score		English		Mathematics	
Case number	Comp.	Vocab.	Comp.	Vocab.	Comp.	Vocab.
1	2	2	2	2	2	2
2	4	3	2	2	2	2
3	1	1	2	2	2	1
4	1	1	1	1	1	1
5	4	4	2	3	3	
6	2	2	2	3	3	3
7	1	1	4	4	4	
8	5	4	4	4	4	4
9	2	2	3	3	3	3
10	1	1	1	1	1	2
11	2	1	2	3	2	2
12	1	2	3	3	3	2
13	1	2	2	3	3	2
14	5	5	5	5		5
15	5	3		4	4	
16	4	5	5	5	5	5
17	2	2	3	2	3	2
18	5	5	5	5		5
19	1	1	3	4	4	1
20	1	4	2	2		4
21	2	2	3	3		3
22	2	3	4	4	4	4
23	5	4	5	5	5	4
24	1	1	3	2	3	2
25	2	2	4	4	4	5
26	3	4	5	3	5	4
27	1	3	3	5	3	3
28	2	2	4	5	5	4
29	2	5	3	5	5	2
30	2	2	2	3	3	2
31	2	1	1	2	2	4
32	1	1	4	3	3	2
33	5	5	5	5	4	3
34	5	5	4	5	5	5
35	1	2	3	3	2	2
36	5	5	5	5		5
37	2	3	5	4	5	3

Case number	Test score		English		Mathematics	
	Comp.	Vocab.	Comp.	Vocab.	Comp.	Vocab.
38	3	3	5	4		5
39	5	4	4	4	4	4
40	1	1	4	5		3
41	5	5		5		5
42	1	1	5	1	1	1
43	2	3	2	4	3	3
44	5	5	5	5		5
45	4	4	3	3	4	3
46	1	1	3	4	4	4
47	1	2	2	2	2	2
48	1	2	4	4	4	4
49	2	2	2	3	3	2
50	5	3	5	5		5
51	4	5	5	5	4	4
52	1	1	2	3	3	2
53	4	2	2	3	3	3
54	1	1	2	2	2	2
55	5	2	5	4	3	3
56	3	2	3	3	3	2
57	5	5	5	5	5	5
58	3	2	2	3	3	2
59	1	1	3	3	3	3
60	3	1	3	2	3	4
61	2	2	4	3	4	3
62	2	2	4	4	4	3
63	3	3	2	4	3	3
64	1	2	5	5	5	3
65	1	1	1	2	3	3
66	2	2	3	4	4	4
67	5	4	5	5	5	
68	4	4	4			3
69	1	2	3	2		
70	3	2	5	5	5	3
71	5	4	5	5	5	5
72	5	5	5	5		5
73	4	2	2	2	2	2
74	1	1	2	2	2	1

Case number	Test score		English		Mathematics	
	Comp.	Vocab.	Comp.	Vocab.	Comp.	Vocab.
75	1	2	4	4	3	4
76	4	5	5	5		4
77	3	3	5	5		
78	4	3	3	3	3	4
79	1	2	1	3	2	1
80	5	5	5		5	5
81	1	1	1	2		3
82	5	3	3	3	2	2
83	1	1	1	1	1	1
84	5	5	5	5		5
85	1	2	4	4	4	
86	3	4	5		4	4
87	2	2	1	1	1	1
88	1	3	4	3	4	
89	2	2	2	2	3	2
90	4	4	5	5		4
91	5	4	5	5		4
92	2	2	3	3	4	3
93	2	2	3	2	3	3
94	1	2	2	2	2	2
95	4	5	4	4	4	3
96	1	3	5	2	1	1
97	5	5	3	3	4	4
98	1	3	2	3		
99	1	1	4	5	5	3
100	2	2	2	2	2	1
101	1	1	2	2	3	1
102	5	4	4	4	4	4
103	1	2	2	2		
104	2	2	2	3	3	2
105	1	1	1	1		
106	2	1	3	2	2	2
107	3	3	3	2	3	3
108	4	5	5	5		5
109	2	1	1	1	2	1
110	1	2	3	3	3	3
111	1	1	3	2	3	3

	Test score		English		Mathematics	
Case number	Comp.	Vocab.	Comp.	Vocab.	Comp.	Vocab.
112	5	5	4	4		4
113	2	1	2	2	2	
114	5	2	1	2		3
115	4	4	5	5		4
116	1	1	1	2		2
117	1	2	2	3	2	1
118	1	1	1	1		
119	2	1	3	3	3	2
120	3	2	4	4	4	3
121	1	1	1	2	1	1
122	4	3	4	3	4	4
123	2	1	1	2	1	1
124	1	2	1	1	1	1
125	2	3	2	2	2	2
126	2	2	5	4		4
127	1	2	2	1		1
128	1	1	2	2		3
129	3	2	1	1	1	1
130	4	4	4	5	4	3
131	1	1	2	2	2	1
132	1	1	2	1	1	2
133	1	2	3	3	3	2
134	2	2	3	3	3	2
135	1	4	5	4	5	5
136	3	3	5	3	4	4
137	1	1	1	1		2
138	1	1	1	1	1	1
139	3	2	3	3	3	2
140	1	1	1	1	1	1

TENTH GRADE STUDENTS' TEST SCORES IN QUINTILES AND TEACHER RATINGS IN VOCABULARY AND COMPREHENSION FOR ENGLISH AND MATHEMATICS

	Test score		Science		English		Math.	
Case no.	Voc.	Com.	Voc.	Com.	Voc.	Com.	Voc.	Com.
1	1	1	3	2	2	2	3	2
2	2	1			2	2		
3	1	1	2	1	2		1	1
4	5	3			5	3		
5	2	1	4	3	5	4		5
6	2	3						
7	1	1			2		2	2
8	1	1			3	2	3	2
9	4	4			5			
10	1	1	1	1	2		1	1
11	4	4			4	4		
12	2	2			4	3		
13	4	2			4	4		
14	2	1	3	3	5	3	4	3
15	1	2	1	1	2		2	1
16	2	3			2	2	2	3
17	2	1	5	4	5	5		3
18	1	3			4	5		
19	5	5		5				
20	1	1	2	2	3	2	2	2
21	3	1	3	3	3	1		4
22	3	3	2	2	4	3	4	3
23	3	4			4	4	5	5
24	4	5			5	3		4
25	5	5			5	5		
26	2	3	3		3		5	4
27	2	1	2	3	1	3	2	3
28	1	1	1	1	2		2	1
29	1	1	2	2	4		3	3
30	1	1	2	2	3		3	2
31	4	4			5	5		
32	3	3			4	3		4
33	2	1		4	3	2	3	3
34	4	3		4	3	3		
35	2	3	4	4	4	4		
36	3	1	3	3	5	5		
37	5	5				5		

	Test score		Science		English		Math.	
Case no.	Voc.	Com.	Voc.	Com.	Voc.	Com.	Voc.	Com.
38	2	3			3	3	3	3
39	1	1	1		1	1	1	1
40	4	5			5	5		2
41	4	4	4	3	4	5		
42	2	2	3	2	3	3	3	3
43	1	1	3	3	3		3	1
44	2	4			4			
45	5	5			5	5	5	5
46	1	1	3	2	1	1	2	2
47	5	5			5	5		
48	4	5		5	4	5		
49	2	3			4	4		
50	1	1	2	2	3		5	4
51	2	2			5	5		
52	2	3	3		3			
53	4	3			5			
54	1	1	3	3	3	3		2
55	2	3	2	3	3			
56	1	1			3			
57	2	1		3	2			3
58	2	4			3	3		4
59	1	1			2		2	2
60	2	2	1	1	2	2		
61	2	3	3	3				
62	2	2			3			4
63	5	5				5		
64	2	1	2	2	1		1	1
65	3	3			4	4		
66	3	2			2	1		
67	2	1			3	3		4
68	4	4			3	3		
69	2	1		3	3	1		
70	2	3	2	2	3	1		
71	3	5			3	3		
72	3	3			3	2		
73	2	1			3			4
74	1	3	3	3	3	3		

	Test score		Science		English		Math.	
Case no.	Voc.	Com.	Voc.	Com.	Voc.	Com.	Voc	Com.
75	3	4			5	5		5
76	1	1	1	2	1	1	1	1
77	1	1			1	2		
78	2	2			3	5	3	3
79	1	1			3		3	3
80	4	2	4	4	4	5		
81	3	5			3	3		3
82	1	1	1	3	3		3	4
83	2	2	2		2	2		
84	2	1			2	2	2	3
85	1	1			3		3	3
86	3	3	2	2	3		2	3
87	1	1			1		1	2
88	2	2			3	3	4	4
89	2	3	2	2	2	2		
90	1	1	2	2	1	1	1	1
91	1	2			2	1	3	3
92	4	4	4	4	4	4		
93	4	2	4	3	4	4		
94	1	2	3	4	4	4		
95	1	1			2	1		3
96	2	1			3	2		3
97	5	5	5					
98	5	3	3	4	4	5		5
99	1	2			3	3		4
100	1	1			1	1	1	1
101	1	2					3	3
102	3	3	2	3	3	2		
103	2	2	2	4	3	2		

APPENDIX D

FIVE FOLD TABLE FOR STUDENTS' MEASURED SCORES AND TEACHER RATINGS CONCERNING READING VOCABULARY IN NINTH GRADE MATHEMATICS

Teacher Rating

Pupils' Measured Ability Given in Quintiles

	5	4	3	2	1
1		3	7	12	14
		(7.31)	(8.72)	(9.28)	(5.63)
2	2	5	14	17	5
	(61.03)	(8.73)	(10.41)	(11.09)	(6.72)
3	2	4	5	3	1
	(2.11)	(3.05)	(3.63)	(3.87)	(2.34)
4	2	10	3		
	(2.11)	(3.05)	(3.63)		
5	12	4	2	1	
	(2.67)	(3.86)	(4.60)	(4.90)	

*Upper number - Frequency occurence.
Lower number - Independence values.
This notation is used on all 5-fold tables.

DETERMINED CONTINGENCY COEFFICIENT

$$S = 221.7$$
$$N = 128.0$$
$$S - N = 93.7$$

$$C = +\sqrt{\frac{93.7}{221.7}} = +\sqrt{.4226} = .65$$

FIVE FOLD TABLE FOR STUDENTS' MEASURED SCORES AND TEACHER RATINGS CONCERNING READING VOCABULARY IN TENTH GRADE MATHEMATICS

Pupils' Measured Ability Given in Quintiles	Teacher Rating 5	4	3	2	1
1	1 (2.46)		9 (7.38)	7 (6.77)	7 (4.92)
2	1 (1.13)	3 (1.13)	3 (3.38)	3 (3.10)	1 (2.26)
3	1 (.31)	1 (.31)		1 (.85)	
4					
5	1 (.10)				

DETERMINED CONTINGENCY COEFFICIENT

$$\begin{array}{r} S = 52.1 \\ \underline{N = 39.0} \\ S - N = 13.1 \end{array}$$

$$C = -\sqrt{\frac{13.1}{52.1}} = -\sqrt{.2514} = .50$$

FIVE FOLD TABLE FOR STUDENTS' MEASURED SCORES AND TEACHER RATINGS CONCERNING READING VOCABULARY IN TENTH GRADE SCIENCE

Pupils' Measured Ability Given in Quintiles	Teacher Rating 5	4	3	2	1
1			6 (5.73)	6 (6.14)	6 (2.86)
2	1 (.68)	2 (2.05)	5 (4.77)	6 (5.11)	1 (2.39)
3			2 (1.59)	3 (1.70)	
4		4 (5.45)			
5	1 (.09)		1 (6.36)		

DETERMINED CONTINGENCY COEFFICIENT

$$S = 89.0$$
$$N = 44.0$$
$$S - N = 45.0$$

$$C = -\sqrt{\frac{45}{89}} = -\sqrt{.5056} = .71$$

FIVE FOLD TABLE FOR STUDENTS' MEASURED SCORES AND TEACHER RATINGS CONCERNING READING COMPREHENSION IN TENTH GRADE SCIENCE

Pupils' Measured Ability Given in Quintiles	Teacher Rating 5	4	3	2	1
1		2 (4.70)	10 (8.35)	8 (6.78)	4 (3.13)
2		3 (1.37)	1 (2.43)	1 (1.98)	2 (.91)
3		3 (2.15)	4 (3.83)	4 (3.11)	
4		1 (.20)			
5	2 (.13)		1 (1.04)		

DETERMINED CONTINGENCY COEFFICIENT

$$\begin{array}{r} S = 62.5 \\ \underline{N = 46.0} \\ S - N = 16.5 \end{array}$$

$$C = -\sqrt{\frac{16.5}{62.5}} = -\sqrt{.2640} = .51$$

FIVE FOLD TABLE FOR STUDENTS' MEASURED SCORES AND TEACHER RATINGS CONCERNING READING VOCABULARY IN NINTH GRADE ENGLISH

Pupils' Measured Ability Given in Quintiles	Teacher Rating 5	4	3	2	1
1	2	3	6	17	11
	(9.11)	(5.98)	(10.25)	(9.11)	(4.55)
2	3	8	20	10	5
	(10.74)	(7.05)	(12.09)	(10.74)	(5.37)
3	3	6	6	4	
	(4.44)	(2.91)	(4.99)	(4.44)	
4	9	3	3	1	
	(3.74)	(2.45)	(4.20)	(3.74)	
5	15	1	1		
	(3.97)	(2.61)	(4.47)		

DETERMINED CONTINGENCY COEFFICIENT

$$S = 512.0$$
$$N = 137.0$$
$$S - N = 175.0$$

$$C = -\sqrt{\frac{175}{312}} = -\sqrt{.5609} = .75$$

FIVE FOLD TABLE FOR STUDENTS' MEASURED SCORES AND TEACHER RATINGS CONCERNING READING VOCABULARY IN TENTH GRADE ENGLISH

Pupils' Measured Ability Given in Quintiles	Teacher Rating 5	4	3	2	1
1		3 (6.14)	11 (11.30)	10 (5.81)	7 (2.91)
2	4 (5.16)	4 (6.53)	16 (12.03)	7 (6.19)	2 (3.09)
3	2 (2.03)	4 (2.57)	6 (4.74)	1 (2.44)	
4	5 (2.19)	7 (2.77)	2 (5.10)		
5	4 (.78)	1 (.99)			

DETERMINED CONTINGENCY COEFFICIENT

$$\begin{aligned} S &= 149.9 \\ N &= 96.0 \\ \hline S - N &= 53.9 \end{aligned}$$

$$C = -\sqrt{\frac{53.9}{149.9}} = -\sqrt{.3596} = .60$$

FIVE FOLD TABLE FOR STUDENTS' MEASURED SCORES AND TEACHER RATINGS CONCERNING READING COMPREHENSION IN NINTH GRADE ENGLISH

Pupils' Measured Ability Given in Quintiles	Teacher Rating 5	4	3	2	1
1	3 (12.06)	9 (9.04)	11 (10.93)	15 (12.43)	14 (7.54)
2	2 (7.65)	5 (5.74)	10 (6.93)	11 (7.89)	5 (4.78)
3	6 (3.25)	1 (2.43)	4 (2.94)	2 (3.35)	1 (2.03)
4	6 (3.71)	4 (2.78)	2 (3.36)	4 (3.83)	
5	15 (5.33)	5 (4.00)	2 (4.83)	1 (5.50)	

DETERMINED CONTINGENCY COEFFICIENT

$$\begin{aligned} S &= 193.7 \\ N &= 138.0 \\ \hline S - N &= 55.7 \end{aligned}$$

$$C = -\sqrt{\frac{55.7}{193.7}} = -\sqrt{.2876} = .54$$

FIVE FOLD TABLE FOR STUDENTS' MEASURED SCORES AND TEACHER RATINGS CONCERNING READING COMPREHENSION IN TENTH GRADE ENGLISH

Pupils' Measured Ability Given in Quintiles	Teacher Rating 5	4	3	2	1
1	2 (5.43)	1 (3.19)	5 (6.39)	7 (4.47)	8 (3.51)
2	3 (3.54)	3 (2.08)	4 (4.17)	3 (2.92)	2 (2.29)
3	2 (3.78)	3 (2.22)	6 (4.44)	4 (3.11)	1 (2.44)
4	2 (1.65)	3 (.97)	2 (1.94)		
5	8 (2.70)		3 (3.06)		

DETERMINED CONTINGENCY COEFFICIENT

$$\begin{aligned} S &= 108.7 \\ N &= \underline{72.0} \\ S - N &= 36.7 \end{aligned}$$

$$C = -\sqrt{\frac{36.7}{108.7}} = -\sqrt{.3376} = .59$$

FIVE FOLD TABLE FOR STUDENTS' MEASURED SCORES AND TEACHER RATINGS CONCERNING READING COMPREHENSION IN NINTH GRADE MATHEMATICS

Pupils' Measured Ability Given in Quintiles	Teacher Rating 5	4	3	2	1
1	4 (6.81)	6 (10.39)	14 (13.26)	9 (7.88)	10 (4.66)
2	3 (5.38)	9 (8.22)	11 (10.48)	9 (6.23)	2 (3.68)
3	3 (2.38)	3 (3.63)	8 (4.63)		1 (1.63)
4	1 (1.90)	5 (2.90)	3 (3.70)	3 (2.20)	
5	8 (2.53)	6 (3.87)	1 (4.93)	1 (2.93)	

DETERMINED CONTINGENCY COEFFICIENT

$$\begin{aligned} S &= 161.0 \\ N &= 120.0 \\ \hline S - N &= 41.0 \end{aligned}$$

$$C = -\sqrt{\frac{41}{161}} = -\sqrt{.2547} = .50$$

FIVE FOLD TABLE FOR STUDENTS' MEASURED SCORES AND TEACHER RATINGS CONCERNING READING COMPREHENSION IN TENTH GRADE MATHEMATICS

Pupils' Measured Ability Given in Quintiles	Teacher Rating 5	4	3	2	1
1	1 (3.05)	5 (7.32)	12 (1.34)	9 (6.10)	9 (6.10)
2		3 (1.83)	5 (3.36)		1 (1.53)
3	1 (.59)	2 (1.42)	4 (2.61)		
4	2 (.25)	1 (.61)			
5	1 (.34)	1 (.81)	1 (1.49)	1 (.68)	

DETERMINED CONTINGENCY COEFFICIENT

$$S = 88.6$$
$$N = 59.0$$
$$S - N = 29.6$$

$$C = -\sqrt{\frac{29.6}{88.6}} = -\sqrt{.3341} = .58$$

A STUDY OF THE RELATIONSHIP BETWEEN STANDARDIZED READING TEST SCORES AND TEACHERS' RATINGS OF NINTH AND TENTH GRADE STUDENTS' READING LEVELS IN ABILENE, KANSAS

by

JOY FOLL LOWE

B. A., University of Arkansas, 1961

AN ABSTRACT OF A MASTER'S REPORT

submitted in partial fulfillment of the

requirements for the degree

MASTER OF SCIENCE

School of Education

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1965

The purpose of this study was to discover if high school teachers in various subject fields could subjectively estimate their students' reading levels. This was accomplished by determining the relationship between teachers' estimates of their students' reading levels and the students' scores on the Diagnostic Reading Test, Survey Section.

Thirteen English, mathematics, and science teachers in grades nine and ten in Abilene, Kansas, took part in the study. The teachers used a five point rating scale ranging from superior to poor to rate each student on vocabulary and comprehension.

The students' scores on the vocabulary and comprehension sections of the Diagnostic Reading Test, Survey Section, were obtained from the school counselor. This test had been given to the students by the counselor prior to the present study. These scores were then transformed into quintiles corresponding to the teacher rating scale.

In order to measure the relationship between the ratings given the students by the teachers on comprehension and vocabulary and the students' standardized test scores, contingency coefficients were determined for these factors for each subject and grade level.

It was found that a high relationship existed between the teachers' estimates and pupils measured abilities in the

following situations:

1. Ninth grade English teachers' ratings and pupils' measured ability in vocabulary.

2. Tenth grade science teachers' ratings and pupils' measured ability in vocabulary.

A marked relationship existed between pupils' scores on the Diagnostic Reading Test, Survey Section, and the teachers' ability to estimate students' ability in the following:

1. Ninth grade English teachers' ratings and pupils' measured ability in comprehension.

2. Tenth grade English teachers' ratings and pupils' measured ability in both comprehension and vocabulary.

3. Ninth and tenth grade mathematics teachers' ratings and pupils' measured ability in comprehension and vocabulary.

4. Tenth grade science teachers' ratings and pupils' measured ability in comprehension.

It was concluded that English, mathematics, and science teachers can subjectively estimate their students' comprehension and vocabulary reading levels from a marked to a high degree of relationship between the students' measured scores and teacher rated scores.

Since a marked relationship does exist between

pupils' measured scores and the teachers' ability to estimate pupils' comprehension and vocabulary levels, teachers should determine the range of their pupils' reading levels and adjust the subject matter to these reading levels. They may then be able to aid each pupil by teaching the reading skills as they are needed.